

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : William B. Kerfoot

Art Unit : 1724

Serial No. : 09/993,152

Examiner : Fred G. Prince

Filed : November 6, 2001

Title : GAS-GAS-WATER TREATMENT SYSTEM FOR GROUNDWATER AND
SOIL REMEDIATION

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. A check for \$180 in payment of the late submission fee of §1.17(p) is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/9/04

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February 9, 2004
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Lenora H. Francis
Signature

LENORA H. FRANCIS
Typed or Printed Name of Person Signing Certificate

02/13/2004 JADD01 00000073 09993152

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Substitute Form PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark OfficeAttorney's Docket No.
10578-003002Application No.
09/993,152**Information Disclosure Statement
by Applicant**

(Use several sheets if necessary)

(37 CFR 1.98(b))

Applicant
William B. KerfootFiling Date
November 6, 2001Group Art Unit
1724**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	4,639,314		Tyer			1/18/85
	AB	4,696,739		Pedneault			8/11/86
	AC	4,966,717		Kern			2/10/89
	AD	5,116,163		Bernhardt			1/16/91
	AE	5,122,165		Wang et al.			6/11/91
	AF	5,180,503		Gorelick et al.			5/10/91
	AG	5,221,159		Billings et al.			6/7/91
	AH	5,227,184		Hurst			5/29/92
	AI	5,246,309		Hobby			5/16/91
	AJ	5,277,518		Billings et al.			11/27/91
	AK	5,389,267		Gorelick et al.			12/18/92
	AL	5,425,598		Pennington			8/12/93
	AM	5,451,320		Wang et al.			7/10/90
	AN	5,472,294		Billings et al.			1/10/94
	AO	5,698,092		Chen			8/7/95
	AP	5,851,407		Bowman et al.			11/26/97
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	AR	6,007,274		Suthersan			5/19/97
	AS	6,217,767		Clark			11/3/93
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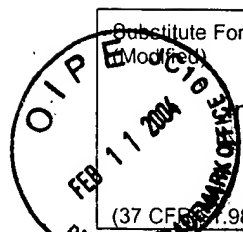
Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AW	4-171036		Patent Abstract of Japan				
	AX	6-023378		Patent Abstract of Japan				

Examiner Signature

Date Considered

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 Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR 1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 10578-003002	Application No. 09/993,152
	Applicant William B. Kerfoot		
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							Yes	No
	AY							
	AZ							
	AAA							

Other Documents (include Author, Title, Date, and Place of Publication)

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	ABB	"Factors Controlling the Removal of Organic Pollutants in an Ozone Reactor", M.D. Gurol, AWWA 1984 Annual Conference, Dallas, TX, June 10-14, 1984, pp. 2-21.
	ACC	"In-situ Air Sparging Without Inorganic Nutrient Amendment: An Effective Bioremediation Strategy for Treating Petroleum-Contaminated Groundwater Systems", R. Schaffner, Jr., et al., http://www.bioremediationgroup.org/BioReferences/Tier1Papers/insitu.htm , July 30, 2003, pp. 1-14.
	ADD	"Environmental Management", DON Environmental Restoration Plan for Fiscal Years 1997-2001, Sept. 30, 1996, pp. 4-1 to 4-8.
	AEE	"How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites", U.S. Environmental Protection Agency, October 1994.
	AFF	"Yuma Pilot-Testing Ozone Sparging, Stripping", Pasha Publications, Defense Cleanup, Nov. 8, 1996, pp. 5-6.
	AGG	"Chemical Degradation of Aldicarb in Water Using Ozone", F.J. Beltran et al., <i>Journal of Chemical Technology & Biotechnology</i> , 1995, pp. 272-278.
	AHH	"Modelling Industrial Wastewater Ozonation in Bubble Contactors", <i>Ozone Science & Engineering</i> , Vol. 17, 1995, pp. 379-398.
	AII	"Modelling Industrial Wastewater Ozonation in Bubble Contactors", <i>Ozone Science & Engineering</i> , Vol. 17, 1995, pp. 355-378.
	AJJ	"Kinetics of the Bentazone Herbicide Ozonation", <i>Journal of Environmental Science and Health</i> , Vol. A31, No. 3, 1996, pp. 519-537.
	AKK	"Field Applications of In Situ Remediation Technologies: Chemical Oxidation", U.S. Environmental Protection Agency, September 1998, pp. 1-31.
	ALL	"Technology Status Review In Situ Oxidation", <i>Environmental Security Technology Certification Program</i> , November 1999, pp. 1-42.
	AMM	"Design of a Packed Bed Ozonation Reactor for Removal of Contaminants from Water, Billing, <i>Dissertation Abstracts International</i> , Vol. 57, No. 10, April 1997, pp. 6398-B.
	ANN	"Completed North American Innovative Remediation Technology Demonstration Projects", U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, August 12, 1996, pp. 1-35.
	AOO	"Ground Water Issue", H.H. Russell et al., U.S. Environmental Protection Agency, January 1992, pp. 1-10.
	APP	"In Situ Chemical Treatment", Y. Yin, Ph.D., <i>Technology Evaluation Report, GWRTAC</i> , July 1999, pp. 1-74.
	AQQ	"Analysis of Selected Enhancements for Soil Vapor Extraction", U.S. Environmental Protection Agency, September 1997, pp. 1-5 to 7-39.

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Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 10578-003002	Application No. 09/993,152
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		Filing Date November 6, 2001	Group Art Unit 1724

Other Documents (include Author, Title, Date, and Place of Publication)

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	ARR	"Biologisch-chemische Behandlung Eines Kontaminierten Grundwassers von einem Gaswerksgele, Dr.-Ing. Joachim Behrendt, <i>Technische Universität Hamburg-Harburg, Germany</i> , Vol. 136, No. 1, January 1995, pp. 18-24.
	ASS	"Single-phase Membrane Ozonation of Hazardous Organic Compounds in Aqueous Streams", P.V. Shanbhag et al., <i>Journal of Hazardous Materials</i> 41, 1995, pp. 95-104.
	ATT	"Gas Partitioning of Dissolved Volatile Organic Compounds in the Vadose Zone: Principles, Temperature Effects and Literature Review, J.W. Washington, <i>GROUNDWATER</i> , Vol. 34, No. 4, July-August 1996, pp. 709-718.
	AUU	"Biologically Resistant Contaminants, Primary Treatment with Ozone", D.F. Echegaray et al., <i>Water Science and Technology, A Journal of the International Association on Water Quality</i> , Vol. 29, No. 8, 1994, pp. 257-261.
	AVV	"Toxins, toxins everywhere", K.K. Wiegner, <i>Forbes</i> , July 22, 1991, pp. 298.
	AWW	"In Situ Air Sparging System", <i>Tech Data Sheet, Naval Facilities Engineering Service Center</i> , March 1997, pp. 1-4.
	AXX	"Ground Water, Surface Water, and Leachate", http://www.frtr.gov/matrix2/section4/4-30.html , July 22, 2003, pp. 1-4.
	AYY	"Alternate Technologies for Wastewater Treatment", J. Hauck et al., <i>Pollution Engineering</i> , May 1990, pp. 81-84.
	AZZ	"Cleaning up", <i>Forbes</i> , June 1, 1987, pp. 52-53.
	AAAA	"In Situ Chemical Oxidation for Remediation of Contaminated Soil and Ground Water", <i>EPA</i> , September 2000, Issue No. 37, pp. 1-6.
	ABBB	"Aquifer Remediation Wells", <i>EPA</i> , Vol. 16, September 1999, pp. 1-80.
	ACCC	"Transfer Rate of Ozone across the Gas-Water Interface", S. Okouchi et al., <i>The Chemical Society of Japan</i> , No. 2, 1989, pp. 282-287.
	ADDD	"Effect of Organic Substances on Mass Transfer in Bubble Aeration", M. Gurol et al., <i>Journal WPCF</i> , Vol. 57, No. 3, pp. 235-240.
	AEEE	"Clare Water Supply", <i>EPA</i> , http://www.epa.gov/region5/superfund/npl/michigan/MID980002273.htm , pp. 1-3.
	AFFF	"Who's Afraid of MTBE?", K.P. Wheeler et al., <i>Manko, Gold & Katcher</i> , http://www.rcc-net.com/Wheels.htm , July 2000, pp. 1-5.
	AGGG	"RCC RemedOzone Mobile Remediation System", <i>RCC</i>
	AHHH	"Santa Barbara I Manufactured Gas Plant Site", <i>California EPA</i> , January 2002, pp. 1-6.
	AIII	"Typical Applications of Ozone", <i>ARCE Systems, Inc.</i> , http://www.arcesystems.com/products/ozone/applications.htm , 2000-02, pp. 1-2.
	AJJJ	"Strategies to Protect Your Water Supply from MTBE", <i>Komex Industries</i> , http://www.komex.com/industries/remediation.stm , 2002, pp. 1-8.
	AKKK	"In Situ Remediation with Chemical Oxidizers: Ozone, Peroxide and Permanganate", <i>Environmental Bio-systems, Inc.</i> , pp. 1-5.
	ALLL	"Newark Brownfield Site to Increase Student Housing", <i>Environmental Alliance Monitor</i> , http://www.envalliance.com/monitor&pubs/1998fall.htm , 1998, pp. 1-8.

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	AMMM	"In Situ Ozonation to Remediate Recalcitrant Organic Contamination", J. Dablow et al., IT Corporation, pp. 1-2.

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